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**(54) Title:** A MEANS FOR THE PROPHYLACTIC AND THERAPEUTIC TREATMENT OF STREPTOCOCCAL INFECTIONS**(57) Abstract**

The present invention relates to compositions containing Group C streptococcal phage associated lysin enzyme for the prophylactic and therapeutic treatment of Streptococcal infections, including the infection commonly known as strep throat. Methods for therapeutically and prophylactically treating such infections also are described.

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6. The composition according to claim 5, wherein said reducing agent is dithiothreitol.

7. The composition according to claim 3, wherein said 5 buffer comprises a metal chelating agent.

8. The composition according to claim 7, wherein said metal chelating agent is ethylenediaminetetraacetic disodium salt.

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9. The composition according to claim 3, wherein said buffer is a citrate-phosphate buffer.

10. The composition according to claim 1, further 15 comprising a bactericidal or bacteriostatic agent as a preservative.

11. The composition according to claim 1, wherein said lysine enzyme is lyophilized.

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12. The composition according to claim 1, wherein said carrier further comprises a sweetener.

13. The composition according to claim 1, wherein the 25 carrier provides a concentration of from about 100 to about 100,000 active enzyme units per milliliter of fluid in the environment of nasal or oral passages.

What is claimed is:

1. A composition for use in the therapeutic or prophylactic treatment of a streptococcal infection, comprising:

an effective amount of Group C streptococcal phage associated lysin enzyme; and

10 a carrier for delivering said lysin enzyme to a mouth, throat, or nasal passage.

2. The composition according to claim 1, wherein said carrier is selected from the group consisting of candy, chewing gum, lozenge, troche, tablet, powder, aerosol, liquid, liquid spray, nasal spray and nasal ointment.

3. The composition according to claim 1, further comprising a buffer that maintains pH of the composition at a range between about 4.0 and about 9.0.

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4. The composition according to claim 3, wherein said buffer maintains the pH of the composition at range between about 5.5 and about 7.5.

25 5. The composition according to claim 3, wherein said buffer comprising a reducing agent.

14. The composition according to claim 13, wherein said concentration is from about 100 to about 10,000 active enzyme units per milliliter of fluid in the environment of the nasal or oral passages.

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15. The composition according to claim 1, wherein said composition is used in the therapeutic treatment of streptococcal infections.

10 16. The composition according to claim 1, wherein said composition is used in the prophylactic treatment of streptococcal infections.

15 17. The composition according to claim 15, wherein said streptococcal infection is a streptococcal throat infection.

18. The composition according to claim 1, wherein said carrier is a candy.

20 19. The composition according to claim 1, wherein said carrier is a chewing gum.

25 20. The composition according to claim 1, wherein said carrier is a lozenge.21. The composition according to claim 1, wherein said carrier is a troche.

21. The composition according to claim 1, wherein said carrier is a troche.

22. The composition according to claim 1, wherein said carrier is a powder.

23. The composition according to claim 1, wherein said 5 carrier is an aerosol.

24. The composition according to claim 1, wherein said carrier is a liquid spray.

10 25. The composition according to claim 1, wherein said carrier is a nasal spray.

26. The composition according to claim 1, wherein said mammal is a human.

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27. The composition according to claim 1, wherein said carrier is suitable for delivering said lysin enzyme to the mouth and throat.

20 28. The composition according to claim 1, wherein said carrier is suitable for delivering said lysin enzyme to the nasal passage.

25 29. The composition according to claim 1, further comprising at least one agent effective for the therapeutic or prophylactic treatment of streptococcal infections or alleviation of symptoms thereof.

30. A method of therapeutically or prophylactically treating streptococcal infections comprising administering a composition in accordance any one of claims 1-29 to a mammal in need thereof.

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31. The use of Group C streptococcal phage associated lyssin in the manufacture of a pharmaceutical composition according to any one of claims 1-29.

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